

CLAIMS

1. A method of manufacturing a bipolar graphite article, comprising:
- (a) forming from graphite material, a first component having an operative side and a back side, and having a protrusion formed on its back side;
- 5 (b) forming from graphite material, a second component having an operative side and a back side, and having a recess formed in its back side, the recess being complementary to the protrusion of the first component; and
- (c) assembling the first and second components so that the protrusion of the first component is received in the recess of the second component.

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2. The method of claim 1, wherein:
- step (a) comprises embossing a sheet of resin-impregnated graphite material to form the first component.

- 15 3. The method of claim 2, wherein the sheet of resin-impregnated graphite material is uncured at the time of step (a).

4. The method of claim 3, which further comprises curing the resin-impregnated graphite material.

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5. The method of claim 1, wherein:
- step (a) comprises compressing a particulate resin impregnated graphite material.

6. The method of claim 5, wherein the resin impregnated graphite material is
- 25 uncured at the time of step (a).

7. The method of claim 6, which further comprises curing the resin impregnated graphite material.

- 30 8. The method of claim 1, wherein:

step (c) includes pressing the first and second components together.

9. The method of claim 8, wherein:

in step (a), the graphite material is resin impregnated, uncured material; and
5 curing occurs during the pressing step.

10. A method of manufacturing a bipolar article for a fuel cell, comprising:

(a) providing first and second sheets of a compressed mass of expanded
graphite particles, each sheet having first and second parallel opposed surfaces;

10 (b) impregnating the sheets with a resin to form uncured resin impregnated
sheets;

(c) calendering the uncured resin impregnated sheets to form first and second
calendered uncured resin impregnated sheets;

15 (d) embossing the first and second calendered uncured resin impregnated
sheets, thereby:

(1) forming from the first sheet a first component having a protrusion
defined thereon; and

(2) forming from the second sheet a second component having a recess
defined thereon;

20 (e) pressing the first and second components together with the protrusion of
the first component received in the recess of the second component; and

(f) curing the resin of the components and thereby bonding the first and
second components together to form the bipolar article.